CLAIMS:

1. A method of resisting corrosion of metals in a concrete structure comprising,

creating an overlay containing at least one compound capable of sequestering chloride ions,

securing said overlay adjacent to said concrete structure, and

sequestering chloride ions in said overlay.

2. The method of Claim 1 including

securing said overlay to said concrete structure to permit chloride ion exchange therebetween.

3. The method of Claim 2 including

creating said overlay on said concrete structure.

4. The method of Claim 2 including

preforming said overlay, and

securing said preformed overlay to said concrete structure.

5. The method of Claim 4 including

securing said preformed overlay to said concrete structure by adhesive.

6. The method of Claim 1 including

effecting said securing to establish surface-to-surface contact between said overlay and said concrete structure.

7. The method of Claim 1 including

applying said overlay to said concrete structure as a slurry.

8. The method of Claim 7 including

applying a second layer of said overlay over said slurry.

9. The method of Claim 8 including

providing said second layer with lower porosity than said slurry layer.

10. The method of Claim 1 including

employing a material selected from the group consisting of concrete, asphalt, Portland cement, clay, calcium aluminate cement, and mortar in said overlay.

11. The method of Claim 1 including

introducing high ionic strength liquid into said overlay.

12. The method of Claim 1 including

employing said method on a concrete structure disposed at least partially under water.

13. The method of Claim 1 including

performing said process without requiring ongoing input of electrical energy.

14. The method of Claim 1 including

establishing said overlay with a thickness of about 0.5 to 10 inches.

15. The method of Claim 1 including

employing as said compound a compound capable of establishing a corrosion resistant oxide layer on embedded metal elements.

16. The method of Claim 1 including

effecting said chloride sequestration in a low-solubility compound.

17. The method of Claim 1 including

employing a nitrite-containing compound as said compound.

18. The method of Claim 1 including

employing said method on metal elements made of steel.

19. The method of Claim 2 including

employing as said compound, a compound capable of liberating nitrite ions.

20. The method of Claim 1 including

employing as said compound a compound selected from the group consisting of

$3CaO \cdot Al_2O_3 \cdot Ca(NO_2)_2 \cdot nH_2O$; $3CaO \cdot A1_2O_3 \cdot Ca(NO_3)_2 \cdot nH_2O$; $3CaO \cdot Fe_2O_3 \cdot Ca(NO_2)_2 \cdot nH_2O$; and $3CaO \cdot Fe_20_3 \cdot Ca(NO_3)_2 \cdot nH_2O$

wherein n = 0 to 24.

21. The method of Claim 2 including

employing as said compound a compound selected from the group consisting of $3Me(II)O{\cdot}R_2O_3{\cdot}Me(II)(anion)_2{\cdot}nH_2O$ and $3Me(II)O{\cdot}R_2O_3{\cdot}Me(II)(anion){\cdot}nH_2O$,

wherein Me(II) is one or more cations, R_2 is Al_2, Fe_2 or Cr_2, anion is NO_2, NO_3, CO_3, BO_4, or OH and n is 0 to 24.

22. The method of Claim 14 including

establishing said overlay with a thickness of about 1 to 4 inches.

23. The method of Claim 2 including

employing as said compound, a compound selected from the group consisting of $CaO{\cdot}Al_2O_3{\cdot}Ca(NO_2)_2{\cdot}nH_2O$ and $3CaO{\cdot}A1_2O_3{\cdot}Ca(NO_3)_2{\cdot}nH_2O$ wherein n = 0 to 24.

24. The method of Claim 1 including

said metal elements being embedded reinforcing elements.

25. The method of Claim 1 including

effecting said compound introduction into ingredients of said concrete prior to creating said overlay.

26. The method of Claim 1 including

effecting said overlay creation by mixing said compound in dry form with cement in dry form and subsequently adding water to said compound and cement mixture.

27. The method of Claim 26 including

adding other ingredients to said mixture prior to adding said water.

28. The method of Claim 2 including

employing said compound in the following reaction to create the chloride-sequestering compound and to establish said corrosion resistant oxide layer $3CaO{\cdot}Al_2O_3{\cdot}Ca(NO_2)_2{\cdot}nH_2O + 2C1^- \Rightarrow 3CaO{\cdot}Al_2O_3{\cdot}CaC1_2{\cdot}nH_2O + 2NO_2^-$ wherein n = 0 to 24.

29. A concrete assembly comprising

a concrete structure,

a plurality of metal elements within said concrete structure,

an overlay containing a compound capable of sequestering chloride ions disposed within said concrete structure, and

said concrete structure and said overlay being disposed in close adjacency to permit ion exchange between pores of said concrete structure and said overlay.

30. The concrete structure of Claim 29 including

said concrete structure being a portion of a bridge.

31. The concrete structure of Claim 29 including

said concrete structure being a portion of a pier.

32. The concrete structure of Claim 29 including

said concrete structure being a portion of a highway.

33. The concrete structure of Claim 29 including

said concrete structure being a portion of a parking garage or parking lot.

34. The concrete structure of Claim 29 including

said compound being capable of establishing a corrosion resistant oxide layer on said metal reinforcing elements.

35. The concrete structure of Claim 29 including

said chloride ion sequestering compound being a low-solubility compound.

36. The concrete structure of Claim 29 including

said chloride ion sequestering compound being a compound containing nitrite.

37. The concrete structure of Claim 29 including

said compound being selected from the group consisting of $3CaO{\cdot}Al_2O_3{\cdot}Ca(NO_2)_2{\cdot}nH_2O$; $3CaO{\cdot}A1_2O_3{\cdot}Ca(NO_3)_2{\cdot}nH_2O$; $3CaO{\cdot}Fe_2O_3{\cdot}Ca(NO_2)_2{\cdot}nH_2O$ and $3CaO{\cdot}Fe_2O_3{\cdot}Ca(NO_3)_2{\cdot}nH_2O$ wherein n = 0 to 24.

38. The concrete structure of Claim 29 including

said compound being selected from the group consisting of $3Me(II)O{\cdot}R_2O_3{\cdot}Me(II)(anion)_2{\cdot}nH_2O$ and $3Me(II)O{\cdot}R_2O_3{\cdot}Me(II)(anion){\cdot}nH_2O$

wherein Me(II) is one or more cations, R_2 is Al_2, Fe_2 or Cr_2, anion is NO_2, NO_3, CO_3, BO_4, or OH and n is 0 to 24.

39. The concrete structure of Claim 38 including

said compound being selected from the group consisting of

$3CaO{\cdot}Al_2O_3{\cdot}Ca(NO_2)_2{\cdot}nH_2O$ and $3CaO{\cdot}Al_2O_3{\cdot}Ca(NO_3)_2{\cdot}nH_2O$ wherein n = 0 to 24.

40. A compound capable of sequestering chloride comprising

a compound selected from a group consisting of $3CaO{\cdot}Al_2O_3{\cdot}Ca(NO_2)_2{\cdot}nH_2O$

wherein n = 0 to 24,

$3CaO{\cdot}Al_2O_3{\cdot}Ca(NO_3)_2{\cdot}nH_2O$; and $3CaO{\cdot}Fe_2O_3{\cdot}Ca(NO_2)_2{\cdot}nH_2O$; wherein n = 0 to 24.

41. The compound of Claim 40 including

said compound selected from the group consisting of

$3CaO{\cdot}Al_2O_3{\cdot}Ca(NO_2)_2{\cdot}nH_2O$, and $3CaO{\cdot}Fe_2O_3{\cdot}Ca(NO_2){\cdot}nH_2O$ wherein n = 0 to 24.

42. The method of Claim 1 including

employing the following reaction in sequestering said chloride ions

$3CaO{\cdot}Fe_2O_3{\cdot}Ca(NO_2){\cdot}nH_2O + 2Cl^- \Rightarrow 3CaO{\cdot}Fe_2O_3{\cdot}CaCl_2{\cdot}nH_2O + 2NO_2^-$

wherein n = 0 to 24.